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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,785	10/10/2006	Rob Otte	GB 040087	4522

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EXAMINER	
DOBSON, DANIEL G	
ART UNIT	PAPER NUMBER
2613	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,785	OTTE, ROB	
	Examiner	Art Unit	
	DANIEL G. DOBSON	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

2. Applicant's arguments, with respect to the rejection(s) of claim(s) 15 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

Applicant's remarks concerning a diffuser and a beam splitter are found to be persuasive, i.e. the beam splitter disclosed by *Javitt*, does not read on the claimed diffuser.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 5, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,118,131 to Korevaar.

As to **Claim 1**, *Korevaar* discloses a receiver (20) for optical communications (Fig. 3) including:

at least one primary optical detector (Fig. 3, 14 with active area shown in Fig. 2A as 18) (12) for receiving radiation from a radiation beam (Fig. 3, 46) (16a) when the radiation beam is aligned with the primary optical detector (Col. 5, ll. 49-51, incoming beam is focused on the detector) (12), and

at least one auxiliary optical detector (Fig. 3, 32) (15a) arranged to receive radiation from the radiation beam (16b) when the radiation beam is not aligned with the primary optical detector (Fig. 2A and B, 38, light not hitting the active area of the detector (18) is reflected to the CCD camera) (12),

wherein the receiver (20) further includes a diffuser (Col. 4, ll. 62-67, light reflected from the surface (16) is scattered back towards the CCD camera) (13; 71) encircling the at least one primary optical detector (12) to form an assembly (Fig. 2A shows the active area (18) and the surface (16) that scatters the light back to the CCD camera) (12, 13:71) that is arranged such that the diffuser (13;71) lies substantially in or close to the field of focus of a focusing element (Fig. 3, shows that the detector is in the field of focus of element (52)) (11 ;70) for generating diffuse light by diffusely redirecting radiation intended for the at least one primary optical detector towards the at least one auxiliary detector in the case where the radiation beam is not aligned with the at least one primary optical detector (Fig. 2A and B, 38, light not hitting the active area of the detector (18) is reflected to the CCD camera; Col. 4, ll. 35-6, an image of the surface is received at the CCD camera, meaning a diffuse reflection process has occurred.)

As to **Claim 2**, *Korevaar* discloses wherein the focusing element (11; 70) is used for focusing the incoming radiation beam (16b) onto the primary optical detector and/or the diffuser (Fig. 3, 52.)

As to **Claim 4**, *Korevaar* discloses wherein the diffuser is a reflector and is arranged to face substantially in the same direction as the primary detector to

reflect incoming radiation not aligned with the primary detector, and the auxiliary detector is arranged to substantially face the diffuser (Fig. 2A, primary detector (18) and reflector (16) face the same way, Fig. 3, CCD camera faces the diffuser.)

As to **Claim 5**, *Korevaar* discloses wherein the diffuser is arranged in substantially the same plane as the primary detector, and the diffuser and primary detector are positioned in or in proximity to the focal plane of the focusing element (Fig. 2A, diffuser (16) and primary detector (18) are in the same plane, which are in the focal plane of element (52) from Fig. 3.)

As to **Claim 11**, *Korevaar* discloses a first node including a receiver according to claim 1 (discussed above) and a second node (Fig. 1, 32) including a transmitter for transmitting a radiation beam to be received by said receiver (Fig. 1, radiation from transmitter (32) is received at receiver at the bottom of the Figure.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6, 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,118,131 to Korevaar and U.S. Patent 6,154,297 to Javitt et al.

As to **Claim 6**, *Javitt* discloses a control system connected to the auxiliary detector for aligning the primary detector with respect to the radiation beam in at least one direction based on the intensity of radiation received at the auxiliary detector (Col. 2, ll. 59-64.)

Javitt and *Korevaar* are from the same art with respect to optical communication, and are therefore analogous art.

At the time of the invention, it would have been obvious for a person of ordinary skill in the art to use the control system disclosed by *Javitt* in the system disclosed by *Korevaar*. The suggestion/motivation would have been to automate the human control disclosed by *Korevaar.*

As to **Claim 7**, *Javitt* discloses wherein the control system aligns the primary detector with the radiation beam by moving the primary detector (Col. 2, ll. 51-64, the entire transceiver is moved and therefore the primary detector is moved to align with the received signal.) The suggestion/motivation is the same as that used in the rejection for claim 6.

As to **Claim 9**, *Javitt* discloses including at least one pair of auxiliary detectors (Fig. 2), each auxiliary detector being arranged to output current dependent on the intensity of received radiation, and the receiver includes means for calculating misalignment of the primary detector with respect to the radiation beam based on the output signals of each auxiliary detector (Col. 2, ll. 51-64.) The suggestion/motivation is the same as that used in the rejection for claim 6.

As to **Claim 10**, *Javitt* discloses two pairs of auxiliary detectors (Fig. 2, quad detector), wherein the calculating means is connected to both pairs of detectors for calculating misalignment of the primary detector with respect to the radiation beam in two substantially perpendicular directions (Col. 2, ll. 51-64.) The suggestion/motivation is the same as that used in the rejection for claim 6.

7. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,118,131 to Korevaar and U.S. Patent Application Publication 2002/0131121 A1 to Jeganathan et al.

As to **Claim 12**, *Jeganathan* discloses first node including both a transmitter for transmitting a radiation beam and a receiver and said second node including a receiver, wherein the first node is arranged to align the radiation beam output from the transmitter on the first node with respect to the receiver on the second node, based on a signal output from the receiver in said first node (Fig. 1, two nodes with narrow transmission beams for communication, and wide beams for aligning to one another.)

Jeganathan is from the same art with respect to optical communications, and is therefore analogous art.

At the time of the invention, it would have been obvious for a person of ordinary skill in the art to use apply the transceiver disclosed by *Korevaar* as two nodes with transmitters and receivers that align to one another. The suggestion/motivation would have been to provide a robust but inexpensive tracking system to maintain superior alignment between the transceivers (¶ 4.)

As to **Claim 13**, *Jeganathan* discloses wherein the second node is arranged to transmit a relatively narrow divergence data beam and relatively wide divergence auxiliary beam, and wherein the receiver in the first node is arranged to align the primary detector with respect to the auxiliary radiation beam (Fig. 1, narrow divergence beam for data and wide divergence beam for alignment.) The suggestion/motivation is the same as that used in the rejection for claim 12.

As to **Claim 14**, *Jeganathan* discloses wherein the network is arranged such that aligning the primary detector with respect to the auxiliary radiation beam also aligns the primary detector with the data beam from the second node (Fig. 1, narrow divergence beam for data and wide divergence beam for alignment.) The suggestion/motivation is the same as that used in the rejection for claim 12.

8. Claims 3, 8, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,118,131 to Korevaar and U.S. Patent Application Publication 2004/0208595 A1 to Mok et al.

As to **Claim 3**, *Mok* discloses a receiver system (21) for retrieving data from redirected radiation received at the auxiliary detector (Fig. 7, control system (67) is connected to the auxiliary detectors (66) and aligns the primary detector with the radiation beam (Fig. 7, CCD image, received spot is aligned in x and y directions to desired location.))

Mok is from the same art with respect to optical communications, and is therefore analogous art.

At the time of the invention, it would have been obvious for a person of ordinary skill in the art to use the control system disclosed by *Mok* in the system disclosed by *Korevaar*. The suggestion/motivation would have been to automate a previously human controlled process.

As to **Claim 8**, *Mok* discloses a redirecting element arranged in the path of the incoming beam (Fig. 4, 60), wherein the control system aligns the primary detector with the radiation beam by moving the element (Fig. 4, tracking system (67) aligns the beam with the detector (76) by moving the element (60.))

At the time of the invention, it would have been obvious for a person of ordinary skill in the art to use a redirecting element to align the beam with the detector in the system disclosed by *Korevaar*. The suggestion/motivation would have been to achieve alignment without moving the entire transceiver while minimizing the number of components (¶ 10.)

As to **Claim 15**, *Korevaar* discloses a receiver (20) for optical communications including:

at least one primary optical detector (12) for receiving an incoming radiation beam (Fig. 3, detector (14) with active area (18) receives incoming beam (46)),

a redirecting surface (13) for redirecting an incoming radiation beam (Fig. 3, Fig. 2A and B, surface (16) redirects the beam (38) back to the CCD camera (32))(16b),

at least one pair of auxiliary optical detectors (15a, 15b) arranged to receive redirected radiation from the surface (Fig. 3, CCD camera (32) has many pixels for imaging, any two pixels would be considered a pair of optical detectors, Col. 4, ll. 35-7, image of surface (16) is received by camera (32)) (13), and

wherein the surface (13) is a diffuser (Fig. 2A and B, 38, light not hitting the active area of the detector (18) is reflected to the CCD camera; Col. 4, ll. 35-6, an image of the surface is received at the CCD camera, meaning a diffuse reflection process has occurred.)

Korevaar uses human input to align the primary detector and the radiation beam imaged by the CCD camera (based on intensity), so a control system is not expressly disclosed.

Mok also discloses a CCD used to align incoming radiation with a detector (Fig. 7, camera (66) and CCD image.) The control system (67) is connected to the auxiliary detectors (66) and aligns the primary detector with the radiation beam (Fig. 7, CCD image, received spot is aligned in x and y directions to desired location.)

At the time of the invention, it would have been obvious for a person of ordinary skill in the art to use the control system disclosed by *Mok* in the system

disclosed by *Korevaar*. The suggestion/motivation would have been to automate a previously human controlled process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G. DOBSON whose telephone number is (571)272-9781. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel G. Dobson/

Examiner, Art Unit 2613
10/29/2009

/Kenneth N Vanderpuye/
Supervisory Patent Examiner, Art Unit 2613